1983

DIFFERENCES IN THE MATERNAL FEEDING CHOICE AND THE PERCEIVED LOCUS OF CONTROL

Glenda E. Stephan

School of Nursing
Virginia Commonwealth University

This is to certify that the thesis prepared by Glenda E. Stephan entitled DIFFERENCES IN THE MATERNAL FEEDING CHOICE AND THE PERCEIVED LOCUS OF CONTROL has been approved by her committee as satisfactory completion of the thesis requirements for the degree of Master of Science.

[redacted]

Director of Thesis

[redacted]

Committee Member

[redacted]

Committee Member

[redacted]

School Director of Graduate Study

[redacted]

Department Representative

[redacted]

School Dean

May 2, 1983

Date

DIFFERENCES IN THE MATERNAL FEEDING CHOICE AND THE PERCEIVED LOCUS OF CONTROL

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science at Virginia Commonwealth University

By

Glenda E. Stephan
B.S., University of Virginia, 1978

Director: JoAnne K. Henry
Chairman of
Maternal-Child Nursing

Virginia Commonweatlh University
Richmond, Virginia
May, 1983

ACKNOWLEDGEMENTS

To my committee: JoAnne Henry, Sallie Strauss and Mimi Bennett: Thank you for your encouragement, support, and time spent reading and editing all the rough drafts.

To my typist: Vickie Bumgardner:

Thank you for the excellent job you did, humor, and encouragement.

To my parents:

Thank you for all the love and encouragement you gave me. You were always there when I needed you and had constant faith in me even when I had given up. You have taught me the importance of love, the meaning of the word family, and gave the word parent a very special meaning.

TABLE OF CONTENTS

LIST OF TABLES

Abstract

DIFFERENCES IN THE MATERNAL FEEDING CHOICE AND THE PERCEIVED LOCUS OF CONTROL

Glenda Elizabeth Stephan, R.N., M.S.N.

Medical College of Virginia - Virginia Commonwealth University, 1983

Major Director: Dr. JoAnne K. Henry

The research question for this descriptive investigation was: Does a difference exist between the maternal feeding choice and the perceived locus of control? The investigation was conducted from September 15, 1982 until October 29, 1982 in a privately owned community hospital in Southeastern United States. Two randomly selected days per week were used for data collection.

The sample consisted of fifty Caucasian women between the ages of eighteen and thirty-four who had delivered a normal, viable, and stable infant within the past twenty-four to seventy-two hours. The sample consisted of twenty-six breast feeding and twenty-four formula feeding women.

The subjects completed the Levenson Multifocal I/E Scale (1972) and the Demographic Tally Tool (1982), developed by the investigator. The Levenson Multifocal I/E Scale was used to ascertain the perceived degree of internalization and control by powerful others, chance and fate. The Levenson Multifocal I/E Scale consisted of twenty-four "I" statements in the Likert format. Additionally, the

subjects verbally completed the Demographic Tally Tool to compile demographic data about the subjects. The Demographic Tally Tool consisted of eleven factual questions.

An inferential statistical computation, the Independent t-Test, was utilized to compare the differences between the means of the two groups. Additionally, descriptive statistics, such as the mean and the mode, were employed to compare the demographic data between the two groups.

The analysis of the inferential statistics revealed a difference in the two groups. The formula feeding group perceived significantly ($p = .05$) a higher degree of control by powerful others, chance and fate than did the breast feeding group. The differences between the two groups' means on internalization proved not to be statistically significant.

Chapter 1

INTRODUCTION

The pendulum of the maternal choice of feeding newborn infants formula, the predominant feeding method of the past three decades, has swung back towards breast feeding. One decade ago, twenty-five percent of the infants born in this country were breast fed (Martinez, et al., 1981). Today, over fifty-five percent of the infants are being breast fed (Martinez, et al., 1981).

Breast milk has been determined to be an excellent food for infants. It has been stated that breast milk offers nutritional and immunological advantages as well as psychological benefits for the mother and child (Psiaki and Olson, 1977). Furthermore, the Canadian Paediatric Society and the American Academy of Pediatrics (1979) stated all infants should be breast fed except where there are maternal or neonatal complications to prevent breast feeding. In addition, the American Academy of Pediatrics' Committee of Nutrition (1976) stressed caution is needed against issuing dire warnings to mothers who cannot or do not wish to breast feed. The Academy stated infant formulas provide the best alternative for meeting the nutritional needs of the first year if the mother chooses not to breast feed. What are

some reasons a mother might choose to use formula instead of choosing to breast feed and visa versa?

Booker (1976) concluded several factors were involved in a mother's decision to use formula to feed her infant. These included convenience, previous experience at breast feeding, and freedom to leave her infant. She concluded the factors involved in a mother's decision to breast feed included an enhancement of the maternal-child relationship, health considerations, and also perceived convenience.

Other extrinsic factors involved in choosing the feeding method included the education, gravida, and the socio-economic class of the mother. Greenback and Hafex (1979) and Martinez, et al.,(1981) found multigravidas and mothers without a college education were more likely to use formula feedings. Mothers in a lower socio-economic class were more likely to use formula to feed their infants (Jeffs, 1976). Additionally, in Meyer's classic study (1958), he postulated factors outside of the mother's control such as religious affiliations and societal attitudes toward the use of formula and breast feeding, influenced her decision regarding which feeding method to use.

In conclusion, there are many postulated factors associated with the mother's chosen feeding method. The maternal feeding choice involved a complex interplay between such internal and external factors as experience, perceived convenience and freedom, education, gravida, and socio-economic class.

Certain personality variables, such as locus of control, involve a complex interplay between internal and external influences. People classified as internals believe they have control of their own destiny; people classified as externals believe they are controlled by luck or powerful others (Rotter, 1966). Individuals who perceive an external locus of control feel rewards or reinforcements are unrelated to their behavior and are beyond their personal control (Lefcourt, 1966). The reinforcements are controlled by fate, chance, or powerful others (Levenson, 1972).

Conversely, individuals with a perceived internal locus of control feel what happens to them is primarily the result of their own actions (Arakelian, 1980). Believing one's behavior will influence a reward or reinforcement is an important belief for a new mother which may allow her to make decisions about her infant and influence the infant's development.

Locus of control is affected by race, socio-economic class, and age. Lefcourt (1966) postulated middle class individuals are more internal than lower class individuals. He postulated Caucasians are more internal than Blacks. Coleman, et al., (1966) found Oriental children were more internal than Caucasian children. Locus of control is affected by age. Ryckman and Malisioski (1975) deduced people in their fifth decade perceived powerful others exerted the most control of their destiny; conversely, people in their seventh decade perceived powerful others had the least control of their lives when compared to all other age groups.

College age adults were the least internal of all the age groups.

Locus of control was originally defined unidimensionally (Levenson, 1972 and MacDonald, 1972). Individuals were either classified as internals or externals. Recently, other variables have been identified which influence locus of control. It has been speculated that people who perceive the world as unorderly (a chance orientation) would behave differently from people who believe the world is ordered, but their destiny is controlled by powerful others (Levenson, 1972). Locus of control is now being perceived as multidimensional, with varying degrees of perceived control by chance and powerful others.

In summary, the maternal choice to breast feed or not is influenced by many extrinsic and intrinsic factors. Further, locus of control may influence the maternal feeding choice especially when it is redefined as multidimensional.

Research Question

The research question for this descriptive investigation is: Does a difference exist between the maternal feeding choice and the perceived locus of control?

Definition of Terms

For the purpose of this investigation, the following terms have been operationally defined:

1. Mother: a female who has given birth, either

vaginally or by cesarean section, within the past twenty-four to seventy-two hours.

2. Feeding method:

A. Formula feeding: the process of feeding a newborn infant with a bottle containing commercially prepared infant nutrition.

B. Breast feeding: the process of feeding a newborn infant with the milk produced by the mother's mammary glands.

3. Perceived locus of control:

> "the degree to which the individual perceives that a reward follows from or is contingent on his own behavior versus the degree to which he feels the reward is controlled by forces outside himself." (Rotter, 1966)

The mother's score on the Levenson Multifocal Internal/External Scale (I/E Scale) will be used to ascertain the perceived locus of control. This scale measures the degree the I/E score is dependent upon the individual's perception of internalization, powerful others, and chance (Levenson, 1972).

Assumptions

The following assumptions were made for this investigation:

1. Human beings feel an external or internal sense of power or control.

2. This external or internal sense of power or control can be measured by the Levenson Multifocal I/E Locus of Control Scale.

3. During the first twenty-four to seventy-two hours postpartum, mothers feed their infants with breast milk or formula, not a combination of the two methods.

Limitations

The following limitations were placed on this investigation:

1. The investigation was conducted in one setting, thus, the results can only be generalized to the population used or one with similar characteristics.

2. The results of this study were dependent upon the honesty of the respondents in responding to the Levenson Multifocal I/E Scale.

3. The respondents might have interpreted the questions on the Levenson Multifocal I/E Scale differently.

4. Some of the sample might have been familiar with the Levenson Multifocal I/E Scale or the purpose of the instrument and, therefore, answered the questionnaire differently.

5. Other factors, such as the father's preference for a certain feeding method might have significantly affected the mother's choice.

Delimitations

The following delimitations were placed upon the population used for this investigation:

1. The investigation was conducted in one community hospital in the Richmond area. Thus, to be considered for

this investigation, the woman must have delivered in this hospital during the data collection period.

2. Only mothers who delivered a viable, normal, and stable infant and had implemented their chosen feeding method were asked to participate.

3. Only women who delivered within the past twenty-four to seventy-two hours were considered for the investigation.

4. Only mothers, regardless of their gravida, between the ages of eighteen and thirty-four were considered for this investigation.

5. No mothers were considered for the investigation if they had or were scheduled for surgery on the data collection day.

6. No mothers scheduled for discharge on the data collection day were considered for the investigation.

Theoretical Framework

The theoretical framework of this investigation rests upon two major components: Orem's theory of self-care (1980) and Rotter's social learning theory (1966).

The self care model as outlined by Orem (1980) assumes man is a complex bio-psycho-social being. The clients practice activities they have implemented to maintain life, health, and well being. The clients only make enlightened decisions about self-care when they make "practical judgments" (Orem, 1980).

Self-care is a learned behavior; the earliest learning occurs in the family unit. Additionally, self-care is a reflection of continued motivation and skill. Other factors affecting clients' attempts at self-care include age, developmental state, current health status, as well as the established pattern of responding to external or internal stimuli (Orem, 1980).

In the Orem model there are three types of self-care requisites: universal, developmental, and health-deviation. The universal self-care demands are required by all humans, regardless of age. They include adequate intake of food, water, and air. When self-care involves infants, since infants are unable to fully meet their self-care needs, it is the parent's responsibility to assist the infants in meeting their self-care (Orem, 1980).

Where there is a self-care deficit, it is nursing's responsibility to intervene and assist the clients to help them overcome their self-care deficits. There are three ways a nurse can intervene and assist clients with a self-care deficit. The nursing system, or the approach the nurse uses, can be wholly compensatory, partly compensatory, or educative-developmental (Orem, 1980). Thus, a nurse can act as an educator to supply information the clients need to make a practical judgment to influence their self-care.

Rotter's theory of social learning (1966) postulates that the individual acts upon whether he sees his behavior leading to a particular reinforcement and whether the

reinforcement is seen as valuable. Rotter uses a continuum from internal to external to explain the level of perceived control. An internal level of control suggests the individual perceives the rewards or reinforcements contingent upon his own behavior: they have control over their own destiny. An external locus of control suggests the individual perceives the rewards or reinforcements are contingent upon the power of others or other factors such as fate, chance, or luck (Levenson, 1974). The perceived locus of control may influence the way an individual responds to a certain stimuli and is stable over time (Levenson, 1972).

The above theories can be used to explain the underlaying principles involved in this investigation. The mother is a complex bio-psycho-social being. In order for a new mother to make a practical judgment about the universal self-care demand of food for her infant, factors such as her established pattern of responding to stimuli affect her attempt at self-care. This study will test the extent to which a stable, established pattern of responding to stimuli: locus of control, will affect a mother's ability to make a "practical judgment" about the universal self-care demand of food for her infant.

Rationale for Interest/Significance

Interest in this area began when the investigator noted that mothers who breast fed appeared to respond differently to their pregnancy and subsequent deliveries than

formula feeding mothers. Generally, breast feeding mothers appeared to take a more active role in their pregnancy. This lead the investigator to question if the mothers who chose to breast feed were motivated by a different method of rewards compared to mothers who chose to use formula.

It can be postulated that if a difference exists between the maternal locus of control and the chosen feeding choice, this would be important information used in planning the mother's nursing care. Nurses working with the antepartum, intrapartum, or postpartum client could adapt teaching strategies most suited to the individual's locus of control thus, promoting better client compliance.

Chapter 2

SELECTED REVIEW OF LITERATURE

The organizational framework for this review of the literature included the following subtopics: the history, advantages, disadvantages, and composition of formula and breast milk, the established pattern of responding to intrinsic and extrinsic stimuli of the mother in relation to her feeding choice, and locus of control. One of the interesting findings in the review of the literature was the dearth of information dealing with locus of control related to the maternal feeding choice in the postpartum period.

Formula Feeding

History

The practice of not breast feeding infants has been occurring for thousands of years. Egyptial etchings show infants suckling from animals (Levin, 1963). Also, bottles espcially designed for feeding newborns have been excavated in Greece, Egypt, and from the Roman Empire (Prince, 1976).

Despite this, formula feeding did not really gain popularity until the nineteenth century when the feeding of pap and panada became popular. Pap consisted of flour or bread cooked in water. Panada was a mixture of flour, cereal, or bread cooked in a broth with butter, wine, or milk

added (Prince, 1976). The mortality from such early formulas was frightful. Additionally, the infants could also develop rickets and scurvy from this feeding method (Levin, 1963).

In the 1850's the artificial rubber nipple was developed. Formula feedings became reasonably easy. The milk was modified according to the standardized formula still in use today: two-thirds milk, one-third water, and additional sugar (Levin, 1963). At that time, it was estimated seven out of eight formula fed infants died (Riodan and Countryman, 1980).

The popularity of formula feeding increased rapidly. By the end of World War II, formula feeding was the dominate feeding method for infants in America (Raphael, 1973). Several reasons have been postulated for this. These included: availability of refrigeration, stabilization for storage of cow's milk, mass production of bottles and nipples, and safe water supplies (Riodan and Countryman, 1980). The changing role of the woman from domestic pursuits could also have accounted for this (Riodan and Countryman, 1980).

Composition of Formula

Commercially prepared infant formula is composed of the following ingredients: water, nonfat milk, soy and coconut oils, soy lecithin, carrageenan, vitamins, and minerals (Mead and Johnson, 1977).

Concentrated undiluted formula (40 kilocalories per fluid ounce) supplies 135 kilocalories, three grams protein,

seven grams fat, and fourteen grams carbohydrates (Mead and Johnson, 1977) per 100 milliliters. The specific gravity of undiluted formula is 1.032 (Lawrence, 1980). Additionally, the formula is hemogenized and can be supplied ready to use.

Advantages of Formula Feeding

Several advantages have been cited in the literature for formula feeding. The use of formula has enabled more family members to feed the infant and interact with the newborn on this level (Raphael, 1973). With other family members able to feed the infant, this has freed the mother for other activities and increased her perceived freedom (Raphael, 1973). Formula feedings are not dependent upon factors such as stress, nutrition, and diurnal changes, therefore, the newborn is assured of a supply of nutrition that will not dry out (Pinckney, 1981). Formula fed infants also have an increased rapid weight gain in the first few months of life that breast fed babies do not have (Cunningham, 1979). Thus, Raphael (1973) postulated because of this rapid weight increase, the formula feeding mother is less likely to change her method of feeding later in the infant's life.

Disadvantages of Formula Feeding

Since the 1960's the rate of formula feeding has declined (Jelliffe and Jelliffe, 1976). Problems such as allergies to cow's milk, one of the major components of

formula, in the form of diarrhea and eczema have been associated with formula feedings (Riodan and Countryman, 1980). In addition, formula feedings are high in beta lactoglobulin, a common allergan for babies (Goldman, 1975).

Formula feedings have been associated with causing some mental impairments by altering the delicate balance of catecholamines, electrolytes, and waste products within the infant's body. Commercially prepared infant formulas raise the blood level of tyrosine, which acts as a catalyst in the production of norepinephrine and epinephrine, to ten to twenty times higher than the adult level (Manumes, 1976). Higher than normal blood levels of potassium, sodium, and urea have been reported with formula feedings (Kingston, 1973).

The mother who is formula feeding can see exactly how much formula the infant is consuming, and therefore, there is a tendency to continue feeding the infant after he is satisfied. Combined with the rapid weight gain among formula fed infants, formula fed infants have an increased predisposition toward obesity in later life (Kramer, 1981).

Breast Feeding

Composition of Breast Milk

Mature breast milk has a specific gravity of 1.031 (Lawrence, 1980). It supplies seventy kilocalories, one gram of protein, four grams of fat, and seven grams of carbohydrates per 100 milliliters (Parsonage and Clark, 1981).

Advantages of Breast Feeding

Numerous advantages have been sited in the literature for breast feeding. Picard (1959) postulated breast fed babies do not have the malocclusions and other distortions of the mouth and face associated with artificial protruding and unyielding nipples that formula fed infants have. Breast fed infants do not have the high incidence of dental decay later in life when compared to formula fed infants. Abbey (1979) postulated that the sucking action of the breast fed infant causes milk to be deposited against the posterior plate, posterior tongue, and posterior wall of the oropharynx; therefore, very little milk lingers in the mouth of the infant (Abbey, 1979).

Infants who are not breast fed in the first two weeks of life have a higher incidence of developing ulcerative colitis in later life (Whorwell, et al., 1979). Furthermore, Cunningham's (1979) study of 503 matched infants found breast fed babies had four fold less chance of morbidity at age four months than formula fed infants. Additionally, at age one year the breast fed infants had two fold less chance of morbidity (Cunningham, 1979).

Breast milk helps to protect the newborn against illness by providing antibodies. Breast milk is high in IgA, IgG, IgM, IgD, and IgE antibodies (Oseid, 1975). These antibodies help protect the infant against such organisms as E.Coli, polio, streptococci, shigella, protozoa, and salmonella (Esterly, 1975).

In addition, human breast milk is the highest of all mammalian milk in lactose. Lactose is extremely important for calcium absorption and promoting the growth of lactobacilli which is important to the intestines. Lactobacilli helps in the metabolism of galactose to glucose for the infant's growing mind (Riodan and Countryman, 1980). Breast fed infants also do not have the elevated post-feeding plasma concentrations of insulin, motilin, and endoglucagon that formula fed infants have (Lucas, et al., 1980). Breast fed infants do not have the elevated pre-feeding plasma levels of gastric inhibitory peptide and vasoactive intestinal peptide that formula fed infants have (Lucas, et al., 1980). Both of these intestinal hormones affect the neonates absorption of nutrients as they inhibit gastric secretions and motility (Ganong, 1981).

Another advantage of breast milk is that it allows the direct transfer of vitamins and trace minerals to the infant from the mother (Riodan and Countryman, 1980). Furthermore, human breast milk has less calcium, phosphorus, sodium, and potassium than commercially prepared cow's milk based formula (Winter, 1976). This helps to reduce to about one-third the renal solute load on the neonate's immature kidneys (Reynolds, 1974). Breast milk is also high in cystine and taurine; formula has very little (Winter, 1976). Cystine is important for somatic growth and taurine is important for brain growth and maturation (Sturman, 1976).

The proteins in breast milk are casien and whey which are quickly digested. In formula based on cow's milk, the chief protein is cow casien which forms a tough hard to digest curd in the infant's stomach (Riodan and Countryman, 1980).

The breasts produce milk on a supply and demand principle. The breasts make as much milk as needed by the growing infant. The normal woman can produce up to 700 milliliters per day at the end of the third month of nursing (Jelliffe and Jelliffe, 1976). Even under conditions of severe malnutrition, the breasts can make over 500 milliliters of milk per day (Pinchney, 1981).

Breast fed infants have a lower incident of obesity later in life (Kramer, 1981). During the course of a single feeding, the composition of breast milk changes (Parsonage and Clark, 1981). These changes which alter the taste and texture of the milk as perceived by the infant, may be part of an appetite/satiety mechanism (Hall, 1975) as breast fed infants often stop nursing when milk is still available in the breasts.

Formulas based on cow's milk, as well as human breast milk, contain environmental chemicals (Doucette, 1978). In comparing the two feeding methods, human breast milk has the lowest levels of lead concentration when compared to most cow's milk based formulas (Doucette, 1978).

In conclusion, breast milk offers many advantages for the growing neonate. Breast milk may be associated with

providing long term protection against obesity and digestive ailments, as well as providing immunological benefits for the neonate.

Disadvantages of Breast Feeding

Several problems have been identified with breast feeding. If a milk duct becomes blocked or caked, this can lead to mastisis which can lead to erosion of the interlobular tissue developing into a possible abscess and necrosis (Applebaum, 1976). In addition, all drugs taken by the mother can pass into the breast milk (Yaffe and Walentzky, 1976). Environmental chemicals, such as DDT, also can pass into the breast milk (Jelliffe and Jelliffe, 1978).

Several nutritional problems have been associated with breast milk. The breast fed infant who has become sensitive to cow's milk by the trace amounts present in breast milk, may have an almost anaphylactic reaction when exposed to cow's milk (Gerrald, 1980). In contrast, the formula fed infant may have no adverse reactions to cow's milk if he is not exposed to it for several months (Gerrald, 1980).

Other nutritional problems have been associated with breast milk. The phosphate content of human milk is inadequate for the premature infant (Rowe, et al., 1979). Defects of the mammary gland secretions of zinc have been reported in the literature leading to acodermatitis in the neonate (Lepow, et al., 1982).

Failure to thrive syndrome has been reported in breast fed infants (Frantz and Fleiss, 1980). It has been postulated that inadequate early lactose production might relate to elevated sodium concentrations in breast milk which may lead to hypernatermic dehydration in the neonate (Rowland, et al., 1982). Also, it has been estimated that up to fifty percent of all lactating mothers may exhibit some significant difficulties with breast feeding during the time they are nursing their infant (Cole, 1977).

Additionally, there is a diurnal variation in the fat content of breast milk. Therefore, the content of breast milk is not stable throughout the day. The fat concentration is the lowest in the early morning and the highest in the afternoon (Parsonage and Clark, 1981). Furthermore, mothers in their late thirties or older, have lowered fat content in their milk than younger women (Parsonage and Clark, 1981).

Small amounts of Vitamin D pass through the breast milk to the infant. Therefore, the neonate has to be supplied with an exogenous supply of Vitamin D to prevent a deficiency (Hambraeous, 1977). The preformed levels of niacin are also relatively low in human breast milk (Hambraeous, 1977), although, this deficiency is not common in breast fed infants.

In summary, although there are many nutritional advantages for the infant to be breast fed, there are also numerous nutritional disadvantages associated with breast

feeding. For example, the content of breast milk varies throughout the day, varies with the age of the mother, and several nutritional problems have been associated with breast feeding.

Established Pattern of Responding to Stimuli

Intrinsic

Numerous intrinsic stimuli have been associated with the maternal feeding choice. These factors include the values of the family of procreation and origination, and maternal personality.

Campbell (1976) in her study of sixty primigravidas concluded the majority of women decided upon their infant's feeding method by the end of the first trimester. Furthermore, Jeffs (1976) postulated the maternal choice of a feeding method was based more on personal reasons than advice given by the medical community.

Brack (1975) postulated the family's values and practices are an important factor in choosing the feeding method. She found the rate of breast feeding was two times greater in mothers whose sisters had breast fed. The husband's attitudes also appear to be very important. Jeffs (1976) found a high correlation between a mother breast feeding and her husband wanting her to choose that method. Likewise, of the formula feeding mothers very few of the husbands wanted their wives to breast feed. Brown (1960), in a classic study of 110 mothers, found mothers who used

formula feedings were significantly more narcissistic about their bodies when compared to breast feeding mothers.

Furthermore, Chamberlain (1976) postulated formula feeding mothers were more maternal centered than baby centered; unlike breast feeding mothers. In his survey of sixty new mothers, using a Q sort, he found formula feeding mothers liked their children to be less noisy, less excited, and liked them to share more things with other children when compared to breast feeding mothers' preferences of their children's behavior. Sears (1957) in a dated, but classic work, found breast feeding mothers were more tolerant of their children's masturbation. Further, breast feeding mothers derived significantly more pleasure from doll play, caring for young children, and were more likely as children to indulge in fantasies of someday having their own children (Brown, 1960).

It has further been suggested that mothers who breast fed their infants had less difficulty with their sex role. Newton (1968) found mothers who breast fed were significantly (at the .05 level) more satisfied being female and described their labors as being shorter and less difficult. Breast feeding mothers have been shown to have a decreased sense of modesty and anxiety about sex in general (Sears, et al., 1957).

Extrinsic

Numerous extrinsic stimuli have been associated with the maternal feeding choice. These factors include age,

gravida, education, employment outside of the home, and sex of the infant.

Maternal age has been associated with the maternal feeding choice. Connelly, et al., (1981) correlated an increase in formula feeding among mothers under twenty-four or over thirty-five. In contrast, Campbell (1976) postulated older mothers were more likely to breast feed.

The maternal gravida, education, and employment outside of the home also significantly correlated with the feeding method. Primigravidas appeared more likely to breast feed than multigravidas (Martinez, et al., 1981, Connelly, et al., 1981). With multigravidas, Connelly, et al., (1981) postulated the previous feeding selection had little effect upon the mother's current feeding choice. He correlated an equal chance of the mother changing her current feeding method from her last method.

The maternal level of education was also an important stimuli. Mothers with a college education were found to be more likely to breast feed (Greenback and Hafex, 1979, Martinez, et al., 1981 and Connelly, et al., 1981). Housewives were also more likely than women working outside of the home to breast feed (Martinez, et al., 1981).

The sex of the infant has also been suggested to affect the method, especially the duration of the method. Although, Connelly, et al., (1981) postulated the sex of the infant does not affect the maternal feeding choice, it has been suggested the sex does effect the duration of the

method. Spitzer, et al., (1980) found mothers nursed their male children significantly longer than their female children. He postulated cultural and psychological dispositions might have been involved.

In conclusion, many intrinsic and extrinsic stimuli have been associated with the maternal feeding choice. These stimuli included values, personality, age, gravida, education, and employment outside of the home. These stimuli provide complex interactional variables in the maternal feeding choice.

Locus of Control

Locus of control refers to the perception that rewards are contingent upon one's behaviors, or contingent upon factors such as luck, fate, or powerful others (Rotter, 1966). Individuals are classified on a continuum from internal to external; reflecting the individual's perception of the level of control. Internals perceive rewards are contingent upon their behavior: they are responsible for their own actions. In contrast, externals perceive rewards are contigent upon powerful others, fate, or chance.

Research in locus of control reveals that an extreme external or internal perceived level of control is not optimal and may hamper the individual. The belief in control does not mean one needs to control all outcomes, or have absolutely no control (Arakilian, 1980).

External Locus of Control

Research indicates that an extreme external locus of control hampers the individual (MacDonald, 1972). An external locus of control has been associated with increased perception of pain during labor and delivery (Porsley-Wells, 1979), a decreased likelihood of seeking preventive dental care (William, 1972), a decreased likelihood of participating in voluntary exercise (Sonstroem and Walker, 1973), increased anxiety and pathological behavior (Cromwell, 1961), and passivity in diabetic care (Lowery and DuCette, 1976). An external locus of control has been associated with low scores on happiness, popularity, and self-esteem on the Peer Nomination Inventory in children (Tesiny and Lefkowitz, 1982).

Other health related behaviors have been associated with an external locus of control. An external locus of control has been correlated with not practicing birth control when sexually active (MacDonald, 1970), or not using an effective means of birth control, such as oral contraceptives or an intrauterine device (Lee and Mancini, 1982). Other sexual behaviors have been associated with an external locus of control. Lee and Mancini (1982) in their study of 1,082 Virginia college students found external males had significantly more partners, but less frequent intercourse than men with an internal locus of control.

Individuals scoring high in the external section of the internal to external continuum appear to be more likely

to become involved in socially undesirable activities such as rioting (Berkowitz, 1972) and social action which may not bring about the desired outcome (Levenson, 1974). Also a perceived external locus of control has been associated with the use of coercive power when trying to involve another in an activity (Goldstein and Hjelle, 1973).

The early parenting of externals appears to be significant as external parents tend to raise their children to be externals (Chance, 1965). This tendency appears to be the result of environment rather than heredity as monozygotic and dizygotic twins did not differ significantly in their locus of control scores when compared to each other or singleton college students' scores (Miller and Rose, 1982).

Externals were found to come from homes of low maternal and parental nurturance and high maternal protectiveness and deprivation of privileges (MacDonald, 1971). In contrast, Katovsky, et al., (1967) found females scoring high in externality, had fathers who were nurturant. Individuals of lower socio-economic classes and Blacks were found to be significantly more external (Powell and Vega, 1970). Adult males tended to have a higher perceived level of control by powerful others when compared to adult females (Levenson, 1974).

Internal Locus of Control

An internal locus of control is generally viewed as being positive and healthy as internals tend to practice

more health preventative behaviors and are more successful in mastery of health information (Arakelian, 1980). For example, internals are more likely to follow medical regimens (Lewis, Moriski, and Flynn, 1974), receive preventive inoculations (Dobbs and Kirsh, 1971), and be more successful at stopping smoking (Shipley, 1981). As diabetics, they are more likely to know more about their disease process (Lowery and DuCette, 1976).

It has been postulated internals are higher achievers, have higher intellectual abilities, and are less anxious (Cromwell, 1961). Internals perceive less stress than externals and when faced with stressful situation, use more task oriented coping mechanisms than defensive coping mechanisms (Anderson, 1977). When psychotherapy is needed, internals are more successful than externals (Gillis and Jessor, 1970).

Generally, people with an internally perceived locus of control show more competent behavior (Lefcourt, 1966). They are more likely to use personal persuasion instead of coercive power when trying to involve another in an activity (Goldstein and Hjelle, 1973).

Again, the early parenting of internals appears to be significant. Internals tend to have internal parents (MacDonald, 1971), although there appears to be no significant correlation of E/I scores among husband-wife pairs (Miller and Rose, 1982). Internals describe their homes as having a high level of maternal and paternal nurturance,

maternal predictability of standards, and low maternal deprivation of privileges and protectiveness (MacDonald, 1971). In contrast, Reimanis (1974) correlated an increase in perceived internality when females felt their mothers did not care about them.

There are problems associated with internalization. Internals tend to suffer feelings of failure and have an increased level of anxiety after an unavoidable trauma (Wortman and Brehm, 1975). The "Type A" cardiac personality may be the person with the perceived extreme internal locus of control (Strickhouse, 1978). Additionally, when internals receive positive reinforcement from powerful others, they are more likely to increase the frequency of a negative behavior (Shipley, 1981).

Multidimensional Approach to Locus of Control

Until recently, most of the work on locus of control stemmed from Rotter's initial efforts. This unidimensional approach considered locus of control in a continuum from internal to external; the effects of powerful others, chance, and fate were combined in the external section.

It has been speculated the concept of externality can be differentiated into two distinct groups: control by powerful others and control by fate and chance (Hersch and Scheibe, 1977). Individuals who perceive the world as unordered: a chance orientation, behave differently from individuals who believe the world is controlled, but their

life is controlled by powerful others (Levenson, 1972). Thus, Levenson (1972) developed a tool to determine the perceived amount of control the individual attributes to fate and chance versus powerful others.

Therefore, in health related behaviors, it would be useful to examine the perceived levels of control attributed to powerful others or chance and fate since health care providers are often perceived as powerful others (Levenson, 1981).

In summary, locus of control is a complex motivating factor affecting numerous aspects of an individual's life. The perceived control an individual attributes to internalization, fate and chance, and powerful others can affect such diverse areas as birth control practices to rioting. It appears, though, the parenting style used is significant. Locus of control is not an inherited trait, but is a reflection of the parents' locus of control.

Chapter Summary

In conclusion, the maternal choice of using formula is not a recent discovery. The use of formula, as well as breast feeding, offers nutritional and psychological benefits for the mother, infant, and family unit. The feeding choice involves a complex interplay between intrinsic and extrinsic influences. Certain personality variables, such as locus of control, involves a complex interplay between internal and external influences.

If a difference could be found to exist between the maternal feeding choice and the perceived locus of control, this would provide important information used in planning the client's nursing care. Nursing care could be individualized and teaching strategies most suited to the individual's locus of control could be employed, thus, promoting better client compliance.

Chapter 3

METHODOLOGY

Introduction

The purpose of this investigation was to determine if a difference existed between the maternal feeding choice and the perceived locus of control. In the following section the setting, population, selection of subjects, methodology, design, instrumentation, and data analysis will be discussed.

Setting of Study

The research setting for this investigation was a privately owned community hospital located in the Southeastern United States. The obstetrical wing of the hospital opened in 1978. The facility contains 312 patient beds; thirty-four are used for postpartum patients. There are approximately 250 deliveries per month in this facility.

Population

The target population used in this investigation was married, Caucasian women between the ages of eighteen and thirty-four who had given birth within the past twenty-four to seventy-two hours to a normal, viable, and stable infant

and had implemented their chosen feeding method. Women were only considered for this investigation prior to their day of discharge. Additionally, no women who had, or were scheduled for, surgery that day were considered for this investigation.

Sample

The sample for this investigation consisted of fifty women who met the aforementioned criteria. The investigator used two randomly selected days per week from September 15, 1982 until October 29, 1982 for the data collection. Every patient who met the criteria for the investigation had an equal chance of being selected.

Methodology

The postpartum unit secretary supplied the investigator with a list of potential subjects each day of the data collection. The individual subject was approached for this investigation after she had been randomly selected by drawing names out of the breast feeding or bottle feeding hat. The condition of the infant was then ascertained with the nursery charge nurse.

If the woman and her infant met the criteria of the investigation, she was then approached. Briefly she was told the nature of the investigation (Appendix A). If she voiced dissatisfaction with her chosen feeding method, she was immediately eliminated from the investigation and no further information was obtained from the woman.

After the woman agreed to be in the investigation, her written informed consent was obtained (Appendix B). The woman was told that all information she supplied would be confidential, and, that she could withdraw from the investigation at any time prior to the collection of the Levenson Internal/External Scale. The woman than verbally answered the Demographic Tally Tool and was given the Levenson Scale to complete.

Only the mother's feeding choice for the first seventy-two hours was considered. If the woman was a multigravida, she was asked if she was using the same feeding method with this child as she used with her last child or children. This was to identify the woman who was successful or unsuccessful with her prior feeding method. Additionally, the woman was asked what her husband's preference of feeding method was.

Design

The purpose of this investigation, to determine if a difference existed between the chosen feeding method and the perceived maternal locus of control, was of a descriptive nature. Hence, a descriptive exploratory design was selected as the research design.

Although the subjects were randomly selected, this investigation had some threats to internal and external validity. History was a threat to internal validity since no randomly assigned control group was used. There was also the problem of subjects not finishing the tool. To compensate

for this, the written questionnaire was brief and all subjects who began the investigation were encouraged to finish. In fact, only one subject of the fifty-one women approached for the study withdrew prior to completion of the Levenson Scale. Her doctor had discharged her after she was approached for the study.

Subjects in this investigation were subject to the Hawthorne effect and might have answered the questions differently than they normally would. Therefore, all attempts were made to keep the conditions normal.

Instrumentation

Two instruments were used in this investigation: the Levenson Multifocal I/E Scale (1972) and the Demographic Tally Tool (1982) developed by the investigator. The Levenson I/E Scale was used to ascertain the perceived locus of control. This tool measured in the internal to external direction of the locus of control continuum.

The Levenson I/E Scale was one of the few tools which offered a multidimensional approach to locus of control. The tool measured the perceived degree of internalization. Additionally, this tool measured the perceived degree the individual thought the world was unorderly: a chance orientation and the degree she perceived her life was controlled by powerful others (Levenson, 1972). Thus, the external component was divided into two sections: a chance and a powerful others section.

The Levenson I/E Scale was a twenty-four item tool. Each individual item was stated as an "I" statement instead of a question format. Instead of being a forced choice, the scale was designed in a six point Likert format. The selection of answers were: "strongly disagree," "disagree somewhat," "slightly disagree," "slightly agree," "agree somewhat," and "strongly agree."

The validity and reliability of the Levenson Scale had been well tested in the recent literature using such diverse groups as all adult age groups (18-99), varied socio-economic classes, varied races, mentally stable individuals, and individuals with psychopathologies (Levenson, 1981). The tool had no correlation with the Marlowe-Crown Social Desirability Tool (.00), and had a fair correlation with Rotter's (1966) I/E Scale. The Levenson tool correlated positively with Rotter's (1966) Scale at .25 for powerful others, .56 for the chance scale, and negatively at -.41 for the internal scale. The split-half reliability (Spearman-Brown) was r = .62 (internal scale), r = .66, (powerful others scale) and r = .64 (chance scale). The one week test-retest reliabilities were good at rs = .64 (internal), rs = .74 (powerful others), and rs = .78 (chance). Additionally, the seven week test-retest reliabilities were rs = .85 (internal), rs = .91 (powerful others), and rs = .85 (chance). The test-retest reliabilities, particularly for the powerful others section, were excellent. A copy is included in Appendix C.

The Demographic Tally Tool (1982) was developed to facilitate the gathering of demographic data about each of the subjects to assess factors which might affect the feeding choice. The factors included in the Demographic Tally Tool were: (1) feeding method, (2) husband's preference of feeding method, (3) age on last birthday, (4) occupation, (5) highest level of formal education obtained, (6) husband's occupation, (7) husband's highest level of formal education obtained, (8) sex of infant, (9) type of delivery the subject had, (10) if the subject had selected to room in with the infant, and (11) the feeding method used with previous children (Appendix D).

Data Analysis

The data obtained from this investigation was analyzed using descriptive and inferential statistics. To determine if a difference existed between the maternal locus of control and the chosen feeding method, the Independent t-Test was selected with the level of significance set at .05. To analyze the demographic data obtained, various descriptive statistics were employed.

Chapter 4

PRESENTATION AND ANALYSIS OF DATA

Introduction

This descriptive investigation was conducted to compare the differences in the maternal feeding choice and the perceived maternal locus of control. To ascertain the perceived maternal locus of control, the twenty-four item Levenson Multifocal I/E Scale (Appendix C) was employed. In order to compile demographic data, the subjects verbally completed the Demographic Tally Tool (Appendix D).

The data for this investigation was collected on two randomly assigned days from September 15, 1982 until October 29, 1982. Completed questionnaires were obtained from fifty or 90 percent of the total number of subjects approached. Subjects were only considered for the investigation between twenty-four and seventy-two hours postpartum.

An inferential statistical computation of the independent t-Test was applied to compare the differences in the perceived maternal locus of control between breast feeding women. Additionally, descriptive statistics, such as the mean and the mode, were used to compare the demographic data between the breast feeding and formula feeding women.

Descriptive Findings

The sample consisted of fifty-one women who were approached for the investigation. One subject completed the Demographic Tally Tool, but was elimated from the investigation prior to the completion of the Levenson Multifocal I/E Scale. Her physician decided to discharge her after the initial interview. Fifty women completed both the Levenson Multifocal I/E Scale and the Demographic Tally Tool. The sample consisted of twenty-six breast feeding and twenty-four formula feeding women.

Age

The age of the breast feeding and formula feeding women ranged from nineteen to thirty-four. None of the subjects were age eighteen. The ages of the breast feeding and formula feeding women were similar. The most frequent age group of the breast feeding women was twenty-seven to thirty. Ten of the twenty-six breast feeding women were included in this age group (Table 1).

Additionally, the most frequent age group of the formula feeding women was twenty-seven to thirty. Ten of the twenty-four formula feeding women were included in this age group (Table 1). This finding did not support Campbell's (1976) postulation that older women were more likely to breast feed and the Connelly, et al., (1981) results that younger women are more likely to use formula. Thus,

the maternal age did not strongly affect the maternal feeding choice in this investigation.

Table 1

Age of Breast Feeding/Formula Feeding Women

Age	Breast Feeding	Formula Feeding
19-22	1	1
23-26	6	9
27-30	10	10
31-34	9	4
Total	26	24

Employment of Subjects and Husbands

Fifteen women from each group were employed outside of the home. The minority of the subjects, N = 11 for the breast feeding and N = 9 for the formula feeding group, were not employed outside of the home. This finding did not support the Martinez, et al., (1981) conclusion that women not employed outside of the home were more likely to breast feed.

The majority of the husbands from both groups were employed outside of the home. Only one husband of the fifty sampled elected not to be employed outside of the home. None of the husbands were unemployed.

Education of Subjects and Husbands

The educational levels obtained by both groups were similar. Almost all of the women included in the investigation had at least completed high school.

The two most frequent educational levels obtained by the breast feeding group were the completion of high school and less than four years of college. Similarly, the two most frequent educational levels obtained by the formula feeding group were the completion of high school and the completion of college. This finding did not support Greenback and Hafex's (1979) results that women with a college education were more likely to breast feed (Table 2).

The educational levels obtained by the husbands of the subjects were very similar. The two most frequent educational levels obtained by the husbands of both groups were the completion of high school and the completion of college (Table 2).

Table 2

Educational Levels of Subjects and Husbands

	Breast Feeding		Formula Feeding	
	Subjects	Husbands	Subjects	Husbands
Did not complete high school	2	1	1	2
Completed high school	8	9	10	8
Less than four years of college	8	4	3	3
Completed college	6	7	8	8
Graduate work	2	5	2	2
Total	26	26	24	24

Husbands' Preference of Feeding Method

The majority of women from both groups, N = 15 for the breast feeding group and N = 18 for the formula feeding group, perceived their husbands had no strong preference for feeding method. Eleven of the husbands of the breast feeding group preferred their wives to breast feed. Six of the husbands of the formula feeding group preferred their wives to use formula. In both groups, no women used a method that was in direct opposition to their husbands' preference. These results supported Jeffs' (1976) earlier findings that women tended not to use a feeding method in opposition to their husbands' preference.

Sex of Infant Delivered and Type of Delivery

The majority of women in both groups delivered male infants (N = 17 for breast feeding group and N = 12 for formula feeding group). Every subject, except for one woman in the breast feeding group who delivered twin females, had a singleton birth. The majority of women in both groups delivered vaginally (Table 3).

Table 3

Sex of Infant and Type of Delivery for Breast Feeding and Formula Feeding Subjects

	Type of Delivery Within Groups			
	Breast Feeding		Formula Feeding	
	Cesarean	Vaginal	Cesarean	Vaginal
Female	3	7	3	9
Male	8	9	2	10
Total	11	16*	5	19

*one set of female twins

Mean Hours Postpartum

At the time of study participation, the mean hours postpartum for the breast feeding group was thirty-seven hours with a standard deviation of twelve hours. The mean hours postpartum for the formula group was forty-six hours with a standard deviation of eleven hours.

Gravida, Rooming-In, and Continuity of Feeding Method

The majority of the women in this investigation were multigravidas. Fifteen of the breast feeding group and fourteen of the formula feeding group were multigravidas. This finding was not consistant with the Martinez, et al., (1981) conclusions that primigravidas were more likely to breast feed.

The majority of the subjects did not elect to room-in, or have their infant stay longer in their room than the feeding times. Only nine of the breast feeding and five of the formula feeding subjects elected to room-in with their infant.

Of the nine breast feeding women who roomed-in, six were multigravidas and three were primigravidas. In contrast, of the five formula feeding women who roomed-in, one was a multigravida and four were primigravidas.

Additionally, of the multigravidas in the breast feeding group (N = 15), nine had changed their current feeding method from their prior method. Similarly, of the multigravidas in the formula feeding group (N = 14), seven women had changed their current feeding method from their prior feeding method. This result was in agreement with the Connelly, et al., (1981) finding that half of the women had changed their current feeding method from their prior feeding method.

Inferential Statistical Analysis

The design of this investigation involved the administration of a Likert format locus of control scale to women breast or formula feeding their infants. The purpose of this investigation was to compare the differences of the perceived maternal locus of control between breast feeding and formula feeding women. The findings will be presented as follows:

1) Does a difference exist between the perceived degree of internalization of breast feeding women compared to formula feeding women?

2) Does a difference exist between the perceived degree of control by powerful others of breast feeding women compared to formula feeding women?

3) Does a difference exist between the perceived degree of control by fate and chance of breast feeding women compared to formula feeding women?

In order to compare the differences between the means of the two groups, the Independent t-Test was utilized. The Independent t-Test was selected to statistically analyze the data of this investigation as the data met all the requirements for this statistical test. The data collected consisted of interval measurements obtained from the Levenson Multifocal I/E Scale (Levenson, 1972), the sample corresponded in size to the t distribution, and the two groups were independent of one another (Polit and Hungler, 1978 and Kviz and Knafl, 1980). Additionally, as no direction

of the difference was stated in the research question, the two tailed t-Test was utilized (Haber and Runyon, 1980).

Examination of the mean scores on the Levenson Multifocal I/E Scale (see Appendix E), indicated a difference between the breast feeding and formula feeding groups. The Independent t-Test was applied to determine if the difference between the mean scores was statistically significant at the .05 level.

Degree of Internalization

Although the mean scores in the degree of perceived internalization were different between the breast feeding and formula feeding women, with the breast feeding group perceiving a higher degree of internalization, the difference was not of a statistical significance at the .05 level ($t = 1.82$). Thus, no difference was shown to exist between the degree of internalization and the maternal feeding choice (Table 4).

Degree of Control by Powerful Others

The mean scores of the perceived control by powerful others were different between the breast feeding and formula feeding groups. From the results of the Levenson Multifocal I/E Scale, the mean scores indicated the formula feeding group perceived a higher degree of control by powerful others. This difference was of statistical significance at the .05 level ($t = -3.62$) (Table 4).

Degree of Control by Chance and Fate

The mean scores of the perceived control by fate and chance were different between the two groups. From the results of the Levenson Multifocal I/E Scale (1972), the mean scores indicated the formula feeding group perceived a higher degree of control by fate and chance than the breast feeding group. The difference between the means was significant at the .05 level ($t = -3.37$) (Table 4).

Table 4

Scores of Breast Feeding and Formula Feeding Groups

Scores	Breast (N=26)	Formula (N=24)	t(df-48)
Internalization			
Mean	36	32.12	1.82
Range	12-46	18-46	
Standard Deviation	7.52	7.50	
Powerful Others			
Mean	15.72	25.17	-3.62*
Range	0-44	8-43	
Standard Deviation	9.69	8.63	
Fate and Chance			
Mean	16.31	27.12	-3.37*
Range	0-42	3-44	
Standard Deviation	9.44	13.08	

*significant at $P<.05$ level

Summary of Findings

The analysis of the data revealed some interesting similarities between the breast feeding and formula feeding

groups and their husbands. The majority of the breast feeding and formula feeding groups were of similar age, were employed outside of the home, were multigravidas, delivered vaginally, had male infants, did not room-in with their infant, had changed their current feeding method from their prior feeding method, and did not choose a feeding method in opposition to their husbands' preference. The data also revealed similarities between the husbands of the two groups. The majority of husbands from both groups had completed high school and were employed outside of the home.

The demographic data revealed differences between the women of the two groups. The breast feeding group had less time between their delivery and time of data collection than the formula feeding group did. Additionally, the majority of the breast feeding women who elected to room-in were multigravidas. In contrast, the majority of the formula feeding women who elected to room-in were primigravidas.

The inferential statistical analysis additionally revealed some differences between the two groups. The formula feeding group significantly ($p \leq .05$) perceived a higher degree of control by powerful others, fate and chance than did the breast feeding group. The difference between the two means on internalization proved not to be significant.

Chapter 5

DESCRIPTION OF INVESTIGATION, CONCLUSIONS, IMPLICATIONS FOR NURSING, AND RECOMMENDATIONS

Description of Investigation

The purpose of this investigation was to compare the differences between the maternal feeding choice and the perceived locus of control. The study was conducted in a privately owned community hospital in the Southeastern United States. Fifty-one randomly selected women were approached and asked to participate in the investigation. Completed questionnaires were returned by fifty women. The sample for the investigation consisted of twenty-six breast feeding and twenty-four formula feeding women.

The Levenson Multifocal I/E Scale (1972) and the Demographic Tally Tool (1982), developed by the investigator, were used in this investigation. The Levenson Multifocal I/E Scale was employed to ascertain the perceived degree of internalization, control by powerful others, chance and fate. The scale consisted of twenty-four "I" statements in the Likert format. The Demographic Tally Tool was utilized to compile demographic data, such as age, education of subjects and husbands, employment of subjects and husbands,

feeding methods, time of deliveries, sex of infants delivered, type of deliveries, gravidas, prior feeding methods, and husbands' preference of feeding methods. This tool, which was verbally administered to the subjects, consisted of eleven factual questions.

An inferential statistical computation, the Independent t-Test, was utilized to determine if a difference existed between the maternal feeding choice and the perceived locus of control. In addition, descriptive statistics, such as the mean and mode, were employed to compare the demographic data between the two groups.

The analysis of the inferential statistics resulted in a difference in the two groups. The formula feeding group perceived a significantly ($p \leq .05$) higher degree of control by powerful others, chance and fate than did the breast feeding group. The difference between the two means on internalization proved not to be statistically significant.

Conclusions of Investigation

Several interesting findings resulted from this investigation. The two groups, breast feeding and formula feeding women, had several similarities. The most frequent age group of the breast feeding and formula feeding subjects was twenty-seven to thirty. This result did not support Campbell's (1976) conclusions that older women were more likely to breast feed, or the Connelly, et al., (1981) conclusions that younger women were more likely to formula feed.

Over one-half of the breast and formula feeding women worked outside of their home. This finding did not support the Martinez, et al., (1981) postulation that women not employed outside of the home were more likely to breast feed.

The majority of both groups had obtained at least a high school diploma. This result did not support the result of Greenback and Hafex (1979) that women with a college education were more likely to breast feed.

Further, the majority of women in this investigation perceived their husbands had no preference of feeding method. Over one-half of the multigravidas in this study, had changed their current feeding method from their prior feeding method. The latter result was in agreement with the Connelly, et al., (1981) result that found one-half of the women changed their current feeding method from their last method. Finally, the majority of women in both groups delivered vaginally, had male infants, and did not elect to room-in with their infants.

The analysis of the demographic data revealed some differences between the two groups. The formula feeding group, by comparison of the mean hours postpartum, were more established in the postpartum period. Additionally, the majority of the formula feeding women who elected to room-in were primigravidas.

Implications for Nursing

This investigation tested the extent to which a stable, established pattern of responding to stimuli: locus of control, affected the maternal ability to make a "practical judgment" (Orem, 1980) about the universal self-care demand of food for her infant. This study found a statistically significant difference existed between the two groups studied, breast feeding and formula feeding women, and the perceived degree of control by powerful others, chance and fate. The formula feeding women perceived significantly more control by powerful others, chance and fate than did the breast feeding women.

The results of this investigation have several implications for the nursing profession. In this investigation, the formula feeding women perceived a higher degree of control by powerful others. The nurse is often perceived by clients as a powerful other (Levenson, 1981). Therefore, it is nursing's responsibility not to make clients feel guilty or pressure them into breast feeding or formula feeding. In contrast, it is nursing's responsibility to assist clients in filling a "self-care deficit" (Orem, 1980) in education by assisting them in considering options in infant feeding without influencing their choice.

The majority of women in this investigation were employed outside of the home. Nurses working with antepartum and postpartum clients should attempt to adapt their teaching strategies to provide anticipatory guidance for working

women. These clients could be counseled about role adaptation, priority setting, and the need for time for themselves.

Over one-half of the multigravidas in this investigation had changed their current feeding method from their prior method. Obviously, these women changed their feeding method because of dissatisfaction with the method. It is nursing's responsibility to help multigravidas explore all the pros and cons of breast feeding and formula feeding; allowing clients to voice their feelings regarding their prior feeding method.

Finally, maternal-infant nurses are committed to the concept of family-centered nursing. From this investigation, very few of the subjects elected to room-in with their infants. Therefore, nurses employed in maternal-infant care should stress the advantages of rooming-in to all clients they have contact with.

Recommendations

As a result of this investigation, the following recommendations are made for the pursuit of further nursing research in this area:

1) Conduct a similar study with a larger sample size.

2) Conduct a similar study with a different patient population, such as the population from a large, teaching hospital.

3) Conduct a similar study with non-Causasian subjects.

4) Conduct a similar study and compare the results in the difference in the maternal locus of control between high-risk and low-risk patients.

5) Compare the differences in the perceived maternal locus of control between breast feeding and formula feeding primigravidas or multigravidas.

6) Compare the perceived maternal locus of control between breast feeding or formula feeding women who undergo planned and emergency cesarean sections.

7) Plan and implement two different patient teaching programs suited to either an internal or external locus of control. Using a control group, test the effectiveness of the individualized locus of control teaching on patient compliance.

BIBLIOGRAPHY

Books

Campbell, William G., and Stephen V. Ballou. Form and Style --Thesis, Reports, Term Papers. 5 ed. Boston: Houghton Mifflin Company, 1978.

Cromwell, R. L. A Social Learning Approach to Mental Retardation: Handbook of Mental Deficiency. New York: McGraw-Hill, 1966.

Frantz, K. B. and P. M. Fleiss. Human Milk: Its Biological and Social Value, ed. S. Freier and A. I. Eidelman. Amsterdam: Excerpta Medica, 1980.

Ganong. W. F. Review of Medical Physiology. 10 ed. California: Lange Medical Publications, 1981.

Gerrald, J. W. Human Milk: Its Biological and Soical Value. Amsterdam: Excerpta Medica, 1980.

Goldman, Armond. Symposium on Human Lactation. Washington, D.C.: Health, Education, and Welfare, 1976.

Haber, A. and R. Runyon. Fundamentals of Behavioral Statistics. Massachusetts: Addison-Wesley, 1980.

Jelliffe, Derrick and Patricia Jelliffe. Symposium on Human Lactation. Washington, D.C.: Health, Education, and Welfare, 1976.

Jelliffe, Derrick and Patricia Jelliffe. Human Milk in the Modern World. England: Oxford Press, 1978.

Knafl, Kathleen and Frederick Kviz. Statistics for Nurses: An Introductory Text. Boston: Little, Brown, and Compnay, 1980.

Lawrence, Ruth. Breast Feeding: A Guide for the Medical for the Medical Profession. St. Louis: C.V. Mosby, 1980.

Levenson, Hanna. Research with Locus of Control. New York: Academic Press, 1981.

Levin, Simon. A Philosophy of Infant Feeding. Springfield: Charles C. Thomas, 1963

Orem, Dorothea. Nursing: Concepts of Practice. New York: McGraw-Hill, 1980.

Parsonage, Sally and June Clark. Infant Feeding and Family Nutrition. London: HM&M Publishers, 1981.

Polit, D. and B. Hungler. Nursing Research: Principles and Methods. Philadelphia: J. B. Lippencott, 1978.

Psiaki, Donna and Christine Olson. Current Knowledge on Breast Feeding: A Review for Medical Practitioners. New York: Cornell University Press, 1977.

Raphael, Dana. The Tender Gift: Breast Feeding. New Jersey: Prentice-Hall, Inc., 1973.

Sears, R. R. Patterns of Child Rearing. New York: Harper and Row, 1957.

Spitzer, S. et al. Human Milk: Its Biological and Social Value, ed. S. Freier and A.I. Eidelman. Amsterdam: Excerpta Medica, 1980.

Wortman, C. and J. Brehm. Advances in Experimental Psycology. New York: Academic Press, 1975.

Journals

Abbey, L. "Is Breast Feeding a Likely Cause of Dental Caries?" Journal of the American Dental Association, 98(1):21-23. January, 1979.

Anderson, C. "Locus of Control, Coping Behaviors, and Performance in a Stress Setting; A Logitudinal Study." Journal of Applied Psychology, 67(4):446-451. 1977.

Applebaum, R. "The Modern Managment of Successful Breast Feeding." Pediatric Clinics of North America, 17(1): 203-223. February, 1970.

Arakelian, M. "An Assessment and Nursing Application of the Concept of Locus of Control." Advances in Nursing Science, 3(1):25-42. October, 1980.

Berkowitz, L. "Frustrations, Comparisons, and Other Sources of Emotional Arousal as Contributors to Social Unrest." Journal of Social Issues, 28:77-91. October, 1972.

Brack, D. "Social Forces, Feminism, and Breast Feeding." Nursing Outlook, 23(8):556-561. September, 1975.

Brown, F., et al. "Maternal Personalities and Breast Feeding." Psychosomatic Medicine, 22:421-429. November-December, 1960.

Campbell, R. "Characteristics and Attitudes of Mothers Who Choose to Breast Feed Their Babies." Midwives Chronicle and Nursing Notes, 89:82-84. April, 1976.

Chamberlain, R. "Some Personality Differences Between Breast and Bottle Feeding Mothers." Birth and Family Journal, 3(1):31-34. Spring, 1976.

Cole, J. "Breast Feeding in the Boston Suburbs in Relation to Personal-Social Factors." Clinical Pediatrics, 16 (4):352-356. April, 1977.

Connelly, J., et al. "Breast Feeding Practice and Factors Relating to Choice of Feeding Method." Irish Medical Journal, 74(6):767-768. 1981.

Cunningham, A., et al. "Morbidity in Breast Fed and Artificially Fed Infants." Journal of Pediatrics, 90(5): 726-729. November, 1979.

Dabbs, J. and J. Kirscht. "Internal Control and the Taking of Influenza Shots." Psychological Reports, 28:959-962. 1971.

DuCette, J. and B. Lowery. "Disease Related Learning and Disease Control in Diabetes as a Function of Locus of Control." Nursing Research, 25(5):358-362. September-October, 1976.

Doucette, J. "Is Breast Milk Still Safe for Babies?" American Journal of Maternal-Child Nursing, 3:345-346. December, 1978.

Esterly, N. "The Obstetrician and Breast Feeding." Journal of Reproductive Medicine, 14(3):89-97. March, 1975.

Gillis, J. and R. Jessor. "Effects of Brief Psychotherapy on Belief in Internal Control: An Exploratory Study." Psychotherapy: Theory, Research, and Practice, 7:135-136. 1970.

Goldstein, B. and L. Hjelle. "Power to the Powerless: Locus of Control and the Use of Power." Journal of Personality and Social Psychology, 27:190-196. 1973.

Greenback, G. and S. Hafex. "Factors Influencing Breast Feeding." Journal of Nursing Care, 12(8):6-9. August, 1979.

Hall, B. "Changing Composition of Human Milk and Early Development of an Appetite Control." Lancet, 1:779. 1975.

Hambraeus, L. "Proprietary Milk Versus Human Breast Milk in Infant Feeding." Pediatric Clinics of North America, 24(1):17-37. February, 1977.

Hersch, P. and K. Scheibe. "Reliability and Validity of Internal Control as a Personality Dimension." Journal of Consulting Psychology, 31:609-613. 1967.

Jeffs, J. "Why do Mothers Breast Feed?" Nursing Times, 78(4):911-914. June 16, 1976.

Katkovsky, W., et al. "Parental Antecedents of Children's Belief in External-Internal Control of Reinforcements in Intellectual Achievement Situations." Child Development, 38:766-776. 1967.

Kingston, M. "Biochemical Disturbances in Breast Fed Babies with Gastroenteritis and Dehydration." Journal of Pediatrics, 82:1073. 1973.

Kramer, M. "Does Breast Feeding and Delayed Introduction of Solid Foods Protect Against Subsequent Obesity?" Journal of Pediatrics, 98:883-887. June, 1981.

Lee, T. and J. Mancini. "Locus of Control and Premarital Sexual Behavior." Psychological Reports, 49(3):882-883. 1982.

Lefcourt, H. "Internal Versus External Control of Reinforcement: a Review." Psychological Bulletin, 65(4): 206-220. April, 1966.

Lepow, M., et al. "Acrodermatitis in Breast Fed Premature Infants: Evidence for a Defect of Mammary Zinc Secretion." Pediatrics, 69(2):176-183. February, 1982.

Levenson, Hanna. "Activism and Powerful Others: Distinctions Within the Concept of Internal/External Control." Journal of Personality, 38(1):377-382, 1974.

Lewis, P., A. Dawes, T. Cheney. "Effects of Sensitivity Training on Belief in Internal Control of Interpersonal Relationships." Psychotherapy: Theory, Research, and Practice, 11:282-284. 1974.

Lucas, A., et al. "Breast Versus Bottle: Endocrine Responses are Different with Bottle Feeding." Lancet, 2:1267-1269. 1980.

MacDonald, A. "Internal and External Locus of Control and the Practice of Birth Control." Psychological Reports, 27:206. 1970.

MacDonald, A. "Internal and External Locus of Control Change Techniques." Rehabilitation Literature, 33:44-47. 1972.

MacDonald, A. "Internal and External Locus of Control: Parental Antecedients." Journal of Consulting and Clinical Psychology, 37:143-147. 1971.

Malikioski, M. and R. Ryckman. "Relationship Between Locus of Control and Chronological Age." Psychological Reports, 36:655-658. 1975.

Manumes, E. "Intellectual Deficits After Transient Tyrosenemia in the Term Neonate." Pediatrics, 57:675-678. 1976.

Martinez, G., D. Dodd, J. Samartgedes. "Milk Feeding Patterns in the U.S. During the First Twelve Months." Pediatrics, 68(6):863-868. December, 1981.

Meyer, H. "Breast Feeding in the United States: Extent and Possible Trends." Pediatrics, 22(1):116-121. July, 1958.

Miller, J. and R. Rose. "Familial Resemblance in Locus of Control: A Twin-Family Study of Internal-External Scale." Journal of Personality and Social Psychology, 42(3):535-540. 1982.

Newton, M. "Psychological Aspects of Lactation." New England Journal of Medicine, 277(2):1179-1181. 1967.

Nutrition Committee, American Academy of Pediatrics. "Commentary on Breast Feeding and Infant Formula Including Proposed Standards for Formula." Pediatrics, 57(2): 270-279. February, 1976.

Nutrition Committee, Canadian Paediatric Society and American Academy of Pediatrics. "Infant Nutritional Recommendations." Journal of Nursing Care, 12(8):8. August, 1979.

Oseid, B. "Breast Feeding and Infant Health." Clinical Obstetrics and Gynecology, 18(2):149-173. 1975.

Picard, P. "Bottle Feeding as Preventive Orthodontics." Journal of California Dental Association and Nevada Dental Society, 35:90-95. 1959.

Pinckney, C. "The Bottle Baby Controversy: A Rejointer." Journal of Nurse Midwifery, 26(2):34-42. March-April, 1981.

Porsley-Wells, J. "Effects of Locus of Control on Pain Perception in the First Stage of Labor." Abstracts of Nursing Research, 136. 1974.

Powell, A. and M. Vega. "Correlations of Adult Locus of Control." Psychological Reports, 30:455-460. 1970.

Price, J. "Infant Feeding Throught the Ages." Midwives Chronical and Nursing Notes, 89:283-285. December, 1976.

Reimanis, G. "Effects of Reinforcement Control and Modifications Procedures in Early Grades and College Students." Journal of Educational Research, 68:124-127. 1974.

Riodan, J. and B. Countryman. "Basics of Breast Feeding." Journal of Obstetrical and Gynecological Nursing, 9(4): 207-215. July-August, 1980.

Riodan, J. and B. Countryman. "Basics of Breast Feeding." Journal of Obstetrical and Gynecological Nursing, 9(5): 273-279. September-October, 1980.

Riodan, J. and B. Countryman. "Basics of Breast Feeding." Journal of Obstetrical and Gynecological Nursing, 9(6): 357-368. November-December, 1980.

Rotter, J. "Generalized Expectancies for Internal Versus External Control of Reinforcement." Psychological Monographs, 80(1):1-26. 1966.

Rowe, J., et al. "Nutritional Hypophosphatemic Rickets in a Premature Infant Fed Breast Milk." New England Journal of Medicine, 300:293. 1979.

Rowland, T., et al. "Malnutrition and Hypernatermic Dehydration in Breast Fed Infants." Journal of the American Medical Association, 247(7):1016-1017. February, 1982.

Shipley, R. "Maintenance of Smoking Cessation: Effects of Follow-Up Letters, Smoking, Motivation, Muscle Tension and Health Locus of Control." Journal of Consulting and Clinical Psychology, 49:982-984. 1981.

Sonstroem, R. and M. Walker. "Relationship of Attitude and Locus of Control to Exercise and Physical Fitness." Perceptual and Motor Skills, 36:1031-1034. 1973.

Strickhouse, B. "Internal-External Expectancies and Health-Related Behaviors." Journal of Consulting and Clinical Psychology. 46:1192-1211. 1978.

Sturman, J., et al. "Absence of Cystolothianase in Human Fetal Liver: Is Cystine Essential?" Science, 169:74. 1976.

Sturman, J., et al. "Taurine in Developing Rat Brain: Transfer of Taurine to Pups Via Milk." Pediatric Research, 11:28-33. January, 1976.

Tesiny, E. and M. Lefkowitz. "Childhood Depression: A Six Month Follow-up Study." Journal of Consulting and Clinical Psychology, 50(5):778-780. 1982.

Whorwell, P. "Bottle Feeding and Early Gastroentrititis." British Journal of Medicine, 10:382. February, 1979.

Williams, A. "Personality Characteristics Associated with Preventive Dental Health Practices. Journal of American College of Dentists, 39:225-234. 1972.

Winter, R. "Infant Nutrition." Pediatric Research, 10:263. 1976.

Pamphlets and Unpublished Sources

Booker, Gloria. "Factors Identified by Mothers that Influenced Their Selection of a Feeding Method for Newborn Infants." Master's Thesis, Medical College of Virginia, Virginia Commonwealth University, 1976.

Chance, J. E. "Internal Control of Reinforcements and Social Learning." Lecture: Society for Research in Child Development, Minneapolis, 1965.

Coleman, J. S., et al. "Equality of Educational Opportunity." Washington, D.C.: Government Printing Office, 1966.

Infant Formula, Mead Johnson and Company: Indiana, Mead Johnson, 1977.

Reynolds, J. W. "Water: Developmental Nutrition." Number 10, Ross Laboratories. Columbus: Ohio, 1974.

APPENDIX A

The following introduction was orally presented to each potential subject:

> "Good morning. My name is Glenda Stephan. I am currently a graduate student at the Medical College of Virginia (MCV) working on my Master's Thesis in Maternal Child Nursing. Prior to graduation, I must complete a thesis. For my thesis area, I am looking at how mothers look at their world. If you agree to be in my study, I will ask you several questions and then ask you to complete a questionnaire that will take you about thirty minutes to complete. All the information I receive will be kept in confidence and in no way could you ever be identified."

If the subject agreed to be in the study, I continued:

> "Before we begin, are you satisified with breast feeding/formula feeding?"

If they are not satisified with their feeding method, I thanked them for their time and left. If they were satisfied, I continued:

> "I will now need you to sign a written consent form stating you agree to answer several verbal questions and then complete a written questionnaire. You may withdraw from this study at any time prior to the collection of the written questionnaire and in no way will this study affect your stay in the hospital."

The subject then signed the written consent form and verbally answered the Demographic Tally Tool. The subject was then given the Levenson Multifocal I/E Scale to complete. I then continued:

> "I will return for the written questionnaire in about forty minutes. Thank you for agreeing to be in my study."

APPENDIX B

Written Informed Consent

I agree to participate in a study conducted by Glenda Stephan, R.N., a graduate student in the Maternal-Child Nursing program at the Medical College of Virginia. I understand that I will complete an oral and a written questionnaire concerning how I feel about the world. It is estimated both will take about thirty minutes to complete.

I further understand that all information I supply will be totally confidential. My name will not appear on either questionnaire to provide complete privacy. I understand my participation in this study will in no way affect my care while I am in the hospital. Further, I realize I may withdraw from this study at any time prior to the collection of the questionnaire.

Signed: _____

Date: _____

Witness: _____

APPENDIX C

Levenson's Multifocal Internal/External Scale

	Strongly disagree	Disagree somewhat	Slightly disagree	Slightly agree	Agree somewhat	Strongly agree
1. Whether or not I get to be a leader depends mostly on my ability.	-3	-2	-1	+1	+2	+3
2. To a great extent my life is controlled by accidental happenings.	-3	-2	-1	+1	+2	+3
3. I feel like what happens in my life is mostly determined by powerful people.	-3	-2	-1	+1	+2	+3
4. Whether or not I get into a car accident depends mostly on how good a driver I am.	-3	-2	-1	+1	+2	+3
5. When I make plans, I am almost certain to make them work.	-3	-2	-1	+1	+2	+3
6. Often there is no chance of protecting my personal interests from bad luck happenings.	-3	-2	-1	+1	+2	+3
7. Whan I get what I want, it's usually because I'm lucky.	-3	-2	-1	+1	+2	+3
8. Although I might have good ability, I will not be given leadership responsibility without appealing to those in positions of power.	-3	-2	-1	+1	+2	+3
9. How many friends I have depends upon how nice a person I am.	-3	-2	-1	+1	+2	+3
10. I have often found that what is going to happen will happen.	-3	-2	-1	+1	+2	+3
11. My life is chiefly controlled by powerful others.	-3	-2	-1	+1	+2	+3
12. Whether or not I got into a car accident is mostly a matter of luck.	-3	-2	-1	+1	+2	+3
13. People like myself have very little chance of protecting our personal interests when they conflict with those of strong pressure groups	-3	-2	-1	+1	+2	+3
14. It's not always wise for me to plan too far ahead because many things turn out to be a matter of good or bad fortune.	-3	-2	-1	+1	+2	+3
15. Getting what I want requires pleasing those people above me.	-3	-2	-1	+1	+2	+3
16. Whether or not I get to be a leader depends on whether I'm lucky enough to be in the right place at the right time.	-3	-2	-1	+1	+2	+3
17. If important people were to decide they didn't like me, I probably wouldn't make many friends.	-3	-2	-1	+1	+2	+3
18. I can pretty much determine what will happen in my life.	-3	-2	-1	+1	+2	+3
19. I am usually able to protect my personal interests.	-3	-2	-1	+1	+2	+3
20. Whether or not I get into a car accident depends mostly on the driver.	-3	-2	-1	+1	+2	+3
21. When I get what I want, it's usually because I worked hard for it.	-3	-2	-1	+1	+2	+3
22. In order to have my plans work, I make sure that they fit in with the desires of people who have power over me.	-3	-2	-1	+1	+2	+3
23. My life is determined by my own actions.	-3	-2	-1	+1	+2	+3
24. It's chiefly a matter of fate whether or not I have a few friends or many.	-3	-2	-1	+1	+2	+3

APPENDIX D

Demographic Tally Tool

Method: breast formula

Husband's choice: didn't care breast formula

Age on last birthday: _____

Your occupation/education:

Husband's occupation/education:

Sex this infant: male female

Type of delivery: vaginal cesearian

Delivery time: month _____ day _____ time _____
(_____ hours post partum)

Rooming in: yes no

Other children: sex and feeding method (most recent child first)

male or female formula or bottle
male or female formula or bottle
male or female formula or bottle
male or female formula or bottle
male or female formula or bottle
male or female formula or bottle
male or female formula or bottle
male or female formula or bottle
male or female formula or bottle
male or female formula or bottle

APPENDIX E

Presentation of Locus of Control Data
for Breast Feeding Mothers

Score:	Internalization	Powerful Others	Chance, Fate
Subject			
1	42	44	33
2	37	10	15
3	32	5	8
4	43	20	15
5	30	14	20
6	46	9	12
7	37	9	20
8	36	31	26
9	38	4	2
10	42	14	9
11	30	14	20
12	42	17	25
13	40	16	21
14	28	12	17
15	28	8	9
16	35	11	0
17	33	0	8
18	34	9	7
19	30	34	42
20	39	22	20
21	45	21	18
22	43	21	16
23	45	10	7
24	39	14	13
25	12	17	13
26	30	23	27
Mean Score	36	15.73	16.31
Standard Deviation	7.52	9.96	9.44

Presentation of Locus of Control Data
for Formula Feeding Mothers

Score:	Internalization	Powerful Others	Chance, Fate
Subject			
1	45	14	13
2	37	7	14
3	29	28	44
4	18	33	43
5	31	31	17
6	37	11	22
7	36	19	20
8	43	10	14
9	33	27	32
10	32	34	35
11	26	31	23
12	25	37	39
13	23	35	44
14	36	13	20
15	31	16	4
16	33	34	35
17	46	43	13
18	20	38	39
19	21	31	39
20	35	11	26
21	46	8	3
22	27	34	39
23	30	34	42
24	30	25	31
Mean Score	32.12	25.17	27.18
Standard Deviation	7.50	8.63	13.08

APPENDIX F

[redacted]

August 21, 1982

Ms. Betsy Shires, R.N., M.S.
Staff Development
Henrico Doctors' Hospital
1602 Skipwith Road
Richmond, VA 23229

Dear Ms. Shires:

As you know from our prior communications, I am a graduate student at the Medical College of Virginia. Currently, I am working towards a Master's degree in Maternal-Child Nursing. For my Master's thesis, I have chosen to look at locus of control and the maternal feeding choice.

I hope you will consider allowing me to conduct my investigation on Henrico Doctors' postpartum unit. I will give the patients who meet my criteria a short data form and a locus of control scale. The entire procedure will take the patient about twenty minutes to complete. The data I collect will be kept confidential. The individual patient's name will not appear anywhere.

From this investigation I hope to compare the differences in the perceived maternal locus of control of breast and formula feeding women. Such findings will provide valuable information in providing nursing care to maternity patients.

Enclosed please find three copies of the proposal of my investigation. I am looking forward to our meeting on September 4, 1982. If you have any questions about the proposal, please feel free to contact me prior to the meeting.

Sincerely,

Glenda E. Stephan, R.N.
Graduate Nursing Student
Medical College of Virginia
Virginia Commonwealth University

enc.

Henrico Doctors' Hospital

[redacted] 75

September 8, 1982

Glenda Stephan
[redacted]

Dear Glenda:

This letter confirms that you have the approval of Nursing Service at Henrico Doctors' Hospital to proceed on your research project.

Loretta Riddle has spoken with Dr. Paul Smith, (Chief of OB Services) and has obtained his verbal permission for you to interview mothers. Please call me so I can help you formulate a confirmation memo to send to Dr. Smith.

At this time, you will need to set up an appointment with Eleane Hucks, Head Nurse of Postpartum and Sharleen Lucas, Head Nurse of the Nursery to work out details for data collection.

You have agreed to provide an inservice program for our staff sometime during this period. I will be glad to discuss this with you.

Sincerely,

[redacted]

Betsy Shires, R.N., M.S.
Staff Development

BS/tml

[redacted]

July 6, 1982

Dr. Hanna Levenson
Psychology Department
Texas A & M University
College Station, TX 77843

Dear Dr. Levenson:

I am currently a graduate student at the Medical College of Virginia working towards my Master's degree in Maternal-Child Nursing. For my thesis, I have chosen to look at locus of control and the maternal feeding choice.

For this study, I plan to compare the differences in the perceived maternal locus of control between breast feeding and formula feeding women. If a difference exists, or not, these findings will provide valuable information in providing nursing care.

After reviewing the literature for an appropriate tool, I discovered your Multifocal Internal/External Scale would be best suited for my study. Therefore, I would deeply appreciate your permission to use your tool. If you do grant me permission, I would gladly send you the abstract from my thesis.

Thank you very much for your time and interest in this matter.

Sincerely,

Glenda E. Stephan, R.N.
Graduate Nursing Student
Medical College of Virginia
Virginia Commonwealth University

You have my permission to use the scales. Please note my address.

[redacted]

M E M O R A N D U M

DATE: September 22, 1982

TO: Glenda E. Stephan

FROM: M. Olgas, Chairman
School of Nursing Research Committee

RE: Research Proposal

The Research Committee reviewed your thesis proposal abstract at its September meeting with specific focus on the informed consent sheet and protocol.

Title: Locus of Control Related to Maternal Feeding Choice

Approved: X

Approved with following additions: _____

cc: Dr. J. Henry

VITA